

**IN THE UNITED STATES DISTRICT COURT
THE WESTERN DISTRICT OF TEXAS
WACO DIVISION**

CDN INNOVATIONS, LLC

Plaintiff,

v.

BROADCOM INC.

Defendant.

Civil Action No. 6:20-cv-442

JURY TRIAL DEMANDED

COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff CDN Innovations, LLC (“CDN” or “Plaintiff”), for its Complaint against Defendant Broadcom Inc., (referred to herein as “Broadcom” or “Defendant”), alleges the following:

NATURE OF THE ACTION

1. This is an action for patent infringement arising under the Patent Laws of the United States, 35 U.S.C. § 1 *et seq.*

THE PARTIES

2. Plaintiff CDN is a limited liability company organized under the laws of the State Georgia with a place of business at 44 Milton Avenue, Suite 254, Alpharetta, GA 30009.

3. Upon information and belief, Broadcom is a corporation organized under the laws of the State of Delaware, with a place of business at 1320 Ridder Park Drive, San Jose, CA 95131. Upon information and belief, Broadcom sells, offers to sell, and/or uses products and services throughout the United States, including in this judicial district, and introduces infringing products and services into the stream of commerce knowing that they would be sold and/or used in this judicial district and elsewhere in the United States.

JURISDICTION AND VENUE

4. This is an action for patent infringement arising under the Patent Laws of the United States, Title 35 of the United States Code.

5. This Court has subject matter jurisdiction under 28 U.S.C. §§ 1331 and 1338(a).

6. Venue is proper in this judicial district under 28 U.S.C. § 1400(b).

7. This Court has personal jurisdiction over the Broadcom under the laws of the State of Texas, due at least to their substantial business in Texas and in this judicial district, directly or through intermediaries, including: (i) at least a portion of the infringements alleged herein; and (ii) regularly doing or soliciting business, engaging in other persistent courses of conduct and/or deriving substantial revenue from goods and services provided to individuals in the State of Texas. Venue is also proper in this district because Broadcom has a regular and established place of business in this district. For instance, Broadcom has an office in this judicial district. For example, Broadcom has an office located at 2901 Via Fortuna Drive, Austin, Texas 78746.

BACKGROUND

The Inventions

Adaptive Power Control

8. Sinikka Sarkkinen, Jari Isokangas, and Dimitris Koulakiotis (hereinafter “the Inventors”) are the inventors of U.S. Patent Nos. 7,006,844 (“the ’844 patent”) and 7,860,462 (“the ’462 patent”). A true and correct copy of the ’844 patent is attached as Exhibit A. A true and correct copy of the ’462 patent is attached as Exhibit B.

9. The ’844 and ’462 patents resulted from the pioneering efforts of the Inventors in the area of data transmissions in a wireless communication network, and more particularly the dynamic control of the power level of multicast data transmission. These efforts resulted in the

development of a method and apparatus for adaptive power control for multicast transmission in 2002.

Detecting Port Inactivity

10. Brian Gonsalves and Kenneth Roger Jones (hereinafter “the Inventors”) are the inventors of U.S. Patent Nos. 7,293,291 (“the ’291 patent”) and 7,565,699 (“the ’699 patent”). A true and correct copy of the ’291 patent is attached as Exhibit C. A true and correct copy of the ’699 patent is attached as Exhibit D.

11. The ’291 and ’699 patents resulted from the pioneering efforts of the Inventors in the area of computer network connections, particularly in the area of detecting computer port inactivity. These efforts resulted in the development of a method and system for detecting an idle or inactive data port connection on a personal computer in 2003.

COUNT 1 – INFRINGEMENT OF U.S. PATENT NO. 7,006,844

12. The allegations set forth in the foregoing paragraphs are incorporated into this Count.

13. On February 28, 2006, the ’844 patent was duly and legally issued by the United States Patent and Trademark Office under the title “Adaptive power control for multicast transmission”.

14. CDN is the assignee and owner of the right, title and interest in and to the ’844 patent, including the right to assert all causes of action arising under said patent and the right to any remedies for infringement of it.

15. Upon information and belief, Broadcom has and continues to directly infringe one or more claims of the ’844 patent by making, using (e.g., developing, testing, installing or otherwise using) offering to sell, selling, or importing into the United States products, specifically one or more of the products identified in Exhibit E hereto (the “*Accused 802.11*

Instrumentalities”). For example, upon information and belief, Broadcom at least uses, sells and offers to sell the *Accused 802.11 Instrumentalities* in United States.

16. Exemplary infringement analysis showing infringement of at least claim 23 of the ’844 patent is set forth in Exhibit E. This infringement analysis is necessarily preliminary, as it is provided in advance of any discovery provided by Broadcom with respect to the ’844 patent. CDN reserves all rights to amend, supplement and modify this preliminary infringement analysis. Nothing in the attached chart should be construed as any express or implied contention or admission regarding the construction of any term or phrase of the claims of the ’844 patent.

17. Upon information and belief, users of devices containing Broadcom’s *Accused 802.11 Instrumentalities* have and will continue to directly infringe at least claim 23 of the ’844 patent.

18. Upon information and belief, Broadcom had knowledge of the ’844 patent at least as early as its receipt of this complaint. Defendant Broadcom also had knowledge of the ’844 patent and its infringement thereof at least as early as its receipt on April 7, 2020 of CDN’s letter identifying Broadcom’s infringement of the ’844 patent.

19. Broadcom’s encouragement of others to use the *Accused 802.11 Instrumentalities*—knowing that such use, as alleged herein, infringes at least claim 23 of the ’844 patent—constitutes inducement of others under 35 U.S.C. § 271(b). Broadcom’s encouragement of infringement includes actively advertising, promoting and distributing technical information through its website (and other sources) that the *Accused 802.11 Instrumentalities* are not only compliant with the IEEE Std 802.11. Standard (“802.11”) but specifically intended for use as an 802.11 product. For example, on its website, Broadcom expressly states: “IEEE 802.11ax—implemented in Broadcom’s Max WiFi family of chipsets—

is the newest evolution of Wi-Fi, designed with the Wi-Fi users of today and the trends for tomorrow in mind. Broadcom Max WiFi, which is fully compliant with the IEEE 802.11ax specification and the Wi-Fi Alliance's Wi-Fi 6, delivers faster speeds than any other standard and provides greater capacity to connect more devices in more places”

<https://docs.broadcom.com/doc/80211ax-WP> (last visited 05/28/2020). Such conduct demonstrates Broadcom’s specific intent (or at least willful blindness) to actively aid and abet others to infringe, including but not limited to Broadcom’s partners and downstream customers, whose use of the *Accused 802.11 Instrumentalities* constitutes direct infringement of at least claim 23 of the ’844 patent.

20. Upon information and belief, Broadcom is also liable as a contributory infringer of the ’844 patent under 35 U.S.C. § 271(c) by offering to sell, selling and/or importing into the United States componentry especially made to comply with 802.11 Standard which, as shown in Exhibit E, constitutes an infringement of the ’844 patent. The *Accused 802.11 Instrumentalities* are material components for use in practicing the ’844 patent and are specifically made and are not a staple article of commerce suitable for substantial non-infringing use.

21. The Accused Instrumentality infringed and continues to infringe at least claim 23 of the ’844 patent during the pendency of the ’844 patent.

22. CDN has been harmed by the Broadcom’s infringing activities.

COUNT 2 – INFRINGEMENT OF U.S. PATENT NO. 7,860,462

23. The allegations set forth in the foregoing paragraphs are incorporated into this Count.

24. On December 28, 2010, the ’462 patent was duly and legally issued by the United States Patent and Trademark Office under the title “Adaptive power control for multicast transmission” [sic].

25. CDN is the assignee and owner of the right, title and interest in and to the '462 patent, including the right to assert all causes of action arising under said patent and the right to any remedies for infringement of it.

26. Upon information and belief, Broadcom has and continues to directly infringe one or more claims of the '462 patent by making, using (e.g., developing, testing, installing or otherwise using) offering to sell, selling, or importing into the United States products, specifically one or more of the products identified in Exhibit F hereto (the "*Accused 802.11 Instrumentalities*"). For example, upon information and belief, Broadcom at least uses, sells and offers to sell the *Accused 802.11 Instrumentalities* in United States.

27. Exemplary infringement analysis showing infringement of at least claims 15 and 19 of the '462 patent is set forth in Exhibit F. This infringement analysis is necessarily preliminary, as it is provided in advance of any discovery provided by Broadcom with respect to the '462 patent. CDN reserves all rights to amend, supplement and modify this preliminary infringement analysis. Nothing in the attached chart should be construed as any express or implied contention or admission regarding the construction of any term or phrase of the claims of the '462 patent.

28. Upon information and belief, users of devices containing Broadcom's *Accused 802.11 Instrumentalities* have and will continue to directly infringe at least claims 15 and 19 of the '462 patent.

29. Upon information and belief, Broadcom had knowledge of the '462 patent at least as early as its receipt of this complaint.

30. Broadcom's encouragement of others to use the *Accused 802.11 Instrumentalities*—knowing that such use, as alleged herein, infringes at least claims 15 and 19

of the '462 patent—constitutes inducement of others under 35 U.S.C. § 271(b). Broadcom's encouragement of infringement includes actively advertising, promoting and distributing technical information through its website (and other sources) that the *Accused 802.11 Instrumentalities* are not only compliant with the IEEE Std 802.11. Standard ("802.11") but specifically intended for use an 802.11 product. For example, on its website, Broadcom expressly states: "IEEE 802.11ax—implemented in Broadcom's Max WiFi family of chipsets—is the newest evolution of Wi-Fi, designed with the Wi-Fi users of today and the trends for tomorrow in mind. Broadcom Max WiFi, which is fully compliant with the IEEE 802.11ax specification and the Wi-Fi Alliance's Wi-Fi 6, delivers faster speeds than any other standard and provides greater capacity to connect more devices in more places" <https://docs.broadcom.com/doc/80211ax-WP> (last visited 05/28/2020). Such conduct demonstrates Broadcom's specific intent (or at least willful blindness) to actively aid and abet others to infringe, including but not limited to Broadcom's partners and downstream customers, whose use of the *Accused 802.11 Instrumentalities* constitutes direct infringement of at least claims 15 and 19 of the '462 patent.

31. Upon information and belief, Broadcom is also liable as a contributory infringer of the '462 patent under 35 U.S.C. § 271(c) by offering to sell, selling and/or importing into the United States componentry especially made to comply with 802.11 Standard which, as shown in Exhibit F, constitutes an infringement of the '462 patent. The *Accused 802.11 Instrumentalities* are material components for use in practicing the '462 patent and are specifically made and are not a staple article of commerce suitable for substantial non-infringing use.

32. The Accused Instrumentality infringed and continues to infringe at least claim 15 and 19 of the '462 patent during the pendency of the '462 patent.

33. CDN has been harmed by the Broadcom's infringing activities.

COUNT 3– INFRINGEMENT OF U.S. PATENT NO. 7,293,291

34. The allegations set forth in the foregoing paragraphs are incorporated into this Count.

35. On November 6, 2007, the '291 patent was duly and legally issued by the United States Patent and Trademark Office under the title "System and method for detecting computer port inactivity"

36. CDN is the assignee and owner of the right, title and interest in and to the '291 patent, including the right to assert all causes of action arising under said patent and the right to any remedies for infringement of it.

37. Upon information and belief, Broadcom has and continues to directly infringe one or more claims of the '291 patent by making, using (e.g., developing, testing, installing or otherwise using) offering to sell, selling, or importing into the United States products, specifically one or more of the products identified in Exhibit G hereto (the "*Accused Port Triggering Instrumentalities*"). For example, upon information and belief, Broadcom at least uses, sells and offers to sell the *Accused Port Triggering Instrumentalities* in United States.

38. Exemplary infringement analysis showing infringement of at least claim 1 of the '291 patent is set forth in Exhibit G. This infringement analysis is necessarily preliminary, as it is provided in advance of any discovery provided by Broadcom with respect to the '291 patent. CDN reserves all rights to amend, supplement and modify this preliminary infringement analysis. Nothing in the attached chart should be construed as any express or implied contention or admission regarding the construction of any term or phrase of the claims of the '291 patent.

39. Upon information and belief, users of devices containing Broadcom's *Accused Port Triggering Instrumentalities* have and will continue to directly infringe at least claim 1 of the '291 patent.

40. Upon information and belief, Broadcom had knowledge of the '291 patent at least as early as its receipt of this complaint.

41. Broadcom's encouragement of others to use the *Accused Port Triggering Instrumentalities*—knowing that such use, as alleged herein, infringes at least claim 1 of the '291 patent—constitutes inducement of others under 35 U.S.C. § 271(b). Broadcom's encouragement of infringement includes actively advertising, promoting and distributing technical information through its website (and other sources) that the *Accused Port Triggering Instrumentalities* are not only configured to enable port triggering but specifically intended for use router products designed to utilize port triggering functionality. For example, on its website, Broadcom expressly states that its BCM5357 product is a “wireless LAN (WLAN) router System-on-a-Chip (SoC) solution” including “five-port Fast Ethernet switch”.

<https://www.broadcom.com/products/wireless/wireless-lan-infrastructure/bcm5357> (last visited 05/28/2020). Broadcom's BCM5357 router chip is specifically designed to enable router devices such as the Netgear WNDR3400 to use “Port Triggering” whereby the router “senses a period of inactivity” and then “removes the session information from its session table, and incoming traffic is no longer accepted on [the inactive] port[s]”.

http://www.downloads.netgear.com/files/GDC/WNDR3400V2/WNDR3400v2_UM_EN.pdf.

(last visited May 28, 2020) . Such conduct demonstrates Broadcom's specific intent (or at least willful blindness) to actively aid and abet others to infringe, including but not limited to

Broadcom's partners and downstream customers, whose use of the *Accused Port Triggering Instrumentalities* constitutes direct infringement of at least claim 1 of the '291 patent.

42. Upon information and belief, Broadcom is also liable as a contributory infringer of the '291 patent under 35 U.S.C. § 271(c) by offering to sell, selling and/or importing into the United States especially configured to enable router port triggering which, as shown in Exhibit G, constitutes an infringement of the '291 patent. The *Accused Port Triggering Instrumentalities* are material components for use in practicing the '291 patent and are specifically made and are not a staple article of commerce suitable for substantial non-infringing use.

43. The Accused Instrumentality infringed and continues to infringe at least claim 1 of the '291 patent during the pendency of the '291 patent.

44. CDN has been harmed by the Broadcom's infringing activities.

COUNT 4 – INFRINGEMENT OF U.S. PATENT NO. 7,565,699

45. The allegations set forth in the foregoing paragraphs are incorporated into this Count.

46. On July 21, 2009, the '699 patent was duly and legally issued by the United States Patent and Trademark Office under the title "System and method for detecting computer port inactivity"

47. CDN is the assignee and owner of the right, title and interest in and to the '699 patent, including the right to assert all causes of action arising under said patent and the right to any remedies for infringement of it.

48. Upon information and belief, Broadcom has and continues to directly infringe one or more claims of the '699 patent by making, using (e.g., developing, testing, installing or otherwise using) offering to sell, selling, or importing into the United States products, specifically one or more of the products identified in Exhibit H hereto (the "*Accused Port*

Triggering Instrumentalities”). For example, upon information and belief, Broadcom at least uses, sells and offers to sell the *Accused Port Triggering Instrumentalities* in United States.

49. Exemplary infringement analysis showing infringement of at least claim 1 of the ’699 patent is set forth in Exhibit H. This infringement analysis is necessarily preliminary, as it is provided in advance of any discovery provided by Broadcom with respect to the ’699 patent. CDN reserves all rights to amend, supplement and modify this preliminary infringement analysis. Nothing in the attached chart should be construed as any express or implied contention or admission regarding the construction of any term or phrase of the claims of the ’699 patent.

50. Upon information and belief, users of devices containing Broadcom’s *Accused Port Triggering Instrumentalities* have and will continue to directly infringe at least claim 1 of the ’699 patent.

51. Upon information and belief, Broadcom had knowledge of the ’699 patent at least as early as its receipt of this complaint.

52. Broadcom’s encouragement of others to use the *Accused Port Triggering Instrumentalities*—knowing that such use, as alleged herein, infringes at least claim 1 of the ’699 patent—constitutes inducement of others under 35 U.S.C. § 271(b). Broadcom’s encouragement of infringement includes actively advertising, promoting and distributing technical information through its website (and other sources) that the *Accused Port Triggering Instrumentalities* are not only configured to enable port triggering but specifically intended for use router products designed to utilize port triggering functionality. For example, on its website, Broadcom expressly states that its BCM5357 product is a “wireless LAN (WLAN) router System-on-a-Chip (SoC) solution” including “five-port Fast Ethernet switch”.
<https://www.broadcom.com/products/wireless/wireless-lan-infrastructure/bcm5357> (last visited

05/28/2020). Broadcom's BCM5357 router chip is specifically designed to enable router devices such as the Netgear WNDR3400 to use "Port Triggering" whereby the router "senses a period of inactivity" and then "removes the session information from its session table, and incoming traffic is no longer accepted on [the inactive] port[s]".

http://www.downloads.netgear.com/files/GDC/WNDR3400V2/WNDR3400v2_UM_EN.pdf.

(last visited 05/28/2020). Such conduct demonstrates Broadcom's specific intent (or at least willful blindness) to actively aid and abet others to infringe, including but not limited to Broadcom's partners and downstream customers, whose use of the *Accused Port Triggering Instrumentalities* constitutes direct infringement of at least claim 1 of the '699 patent.

53. Upon information and belief, Broadcom is also liable as a contributory infringer of the '699 patent under 35 U.S.C. § 271(c) by offering to sell, selling and/or importing into the United States componentry especially configured to enable router port triggering which, as shown in Exhibit H, constitutes an infringement of the '699 patent. The *Accused Port Triggering Instrumentalities* are material components for use in practicing the '699 patent and are specifically made and are not a staple article of commerce suitable for substantial non-infringing use.

54. The Accused Instrumentality infringed and continues to infringe at least claim 1 of the '699 patent during the pendency of the '699 patent.

55. CDN has been harmed by the Broadcom's infringing activities.

JURY DEMAND

Pursuant to Rule 38 of the Federal Rules of Civil Procedure, CDN demands a trial by jury on all issues triable as such.

PRAYER FOR RELIEF

WHEREFORE, Plaintiff CDN demands judgment for itself and against Broadcom as follows:

- A. An adjudication that the Broadcom has infringed the patents asserted herein;
- B. An award of damages to be paid by Broadcom adequate to compensate CDN for Broadcom's past infringement of the patents asserted herein, and any continuing or future infringement through the date such judgment is entered, including interest, costs, expenses and an accounting of all infringing acts including, but not limited to, those acts not presented at trial;
- C. A declaration that this case is exceptional under 35 U.S.C. § 285, and an award of CDN's reasonable attorneys' fees; and
- D. An award to CDN of such further relief at law or in equity as the Court deems just and proper.

Dated: May 29, 2020

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/s/ Alex Chan

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